

WHAT IS CLAIMED IS:

1. A high-frequency superposing module for driving a laser diode by supplying the laser diode with a drive current including a DC current and a high-frequency current superposed on the DC current, the module comprising:
  - an oscillating circuit including:
    - an oscillating active element; and
    - a high-frequency blocking inductor connected between a drive-signal output terminal through which a signal for driving the laser diode is output and a source terminal of the oscillating active element, the drive-signal output terminal functioning as a power input terminal for the oscillating circuit; and
  - an impedance matching circuit including:
    - a capacitor connected in series between an output terminal of the oscillating active element and the drive-signal output terminal; and
    - a capacitor connected in parallel between the drive-signal output terminal and a ground.
2. The high-frequency superposing module for driving a laser diode according to claim 1, wherein a portion of the oscillating circuit includes a conductive pattern disposed in a ceramic multilayer substrate, and a component constituting at least a portion of the oscillating circuit and the impedance matching circuit is mounted on the ceramic multilayer substrate.
3. The high-frequency superposing module for driving a laser diode according to claim 1, further comprising a noise suppression filter circuit disposed between the power input terminal and the laser diode.

4. The high-frequency superposing module for driving a laser diode according to claim 3, wherein the noise suppression filter includes a capacitor and an inductor.

5. The high-frequency superposing module for driving a laser diode according to claim 1, wherein the impedance matching circuit including the series capacitor and the parallel capacitor is arranged for impedance matching between the oscillating circuit and the laser diode.

6. The high-frequency superposing module for driving a laser diode according to claim 1, wherein the oscillating circuit includes a transistor, a first resistor connected between a base and a collector of the transistor and a second resistor connected between an emitter of the transistor and the ground.

7. The high-frequency superposing module for driving a laser diode according to claim 6, wherein a first series circuit including a capacitor and an inductor and a second series circuit including at least two capacitors are connected between the base of the transistor and the ground.

8. The high-frequency superposing module for driving a laser diode according to claim 1, wherein the oscillating circuit is a Colpitts oscillating circuit.

9. The high-frequency superposing module for driving a laser diode according to claim 6, wherein the series capacitor is connected in series between the emitter of the transistor and the drive-signal output terminal.

10. The high-frequency superposing module for driving a laser diode according to claim 6, wherein the parallel capacitor is connected in parallel between the drive-signal output terminal and the ground.

11. The high-frequency superposing module for driving a laser diode according to claim 6, wherein a series circuit including a resistor and an inductor is disposed between the emitter of the transistor and the ground.

12. The high-frequency superposing module for driving a laser diode according to claim 6, wherein a series circuit including a parallel circuit having an inductor and a capacitor, and a resistor, are disposed between the emitter of the transistor and the ground.

13. The high-frequency superposing module for driving a laser diode according to claim 6, wherein a resistor is disposed between the base of the transistor and the ground.

14. The high-frequency superposing module for driving a laser diode according to claim 2, wherein the ceramic multilayer substrate includes a plurality of laminated ceramic layers having conductive patterns disposed thereon.

15. The high-frequency superposing module for driving a laser diode according to claim 2, wherein the ceramic multilayer substrate includes a plurality of via holes formed therein.

16. The high-frequency superposing module for driving a laser diode according to claim 2, further comprising a metal case arranged to cover sides of the ceramic multilayer substrate.